

Date: Tuesday, 2/7/2006 12:13:12 PM
 User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : WEARPLATE
Job Number : 25727	
Estimate Number : 10436	
P.O. Number : N/A	Part Number : D33155
This Issue : 2/7/2006 S.O. No. : N/A	Drawing Number : D3315 REV. PRELIM.
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : PURCHASED PARTS	Drawing Revision : A B 05.03.02 AM
Previous Run : 24608	Material : N/A
Written By : <u>SEE COMMENT BELOW</u>	Due Date : 2/14/2006 Qty: 10 Um: Each
Checked & Approved By : <u>V</u>	
Comment : Est: A 05.05.12 New issue KJ/JLM	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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**Comment:** PURCHASING

Issue P/O: 00000521

Email or Ship DXF file to vendor

Laser Cut flat pattern per Dwg D3315

Possible Supplier: Industrial Laser

Material release note is required

2.0	D33155F	Wearplate, LH Aft
-----	---------	-------------------

**Comment:** Qty.: 1.0000 U(s)/Unit Total: 10.0000 U(s)

WEARPLATE

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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**Comment:** PACKAGING RESOURCE #1

Recieve & Inspect for Transit Damage

Ensure Material Release Note is attached

4.0	QC6	DIMENSIONAL CHECK
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**Comment:** DIMENSIONAL CHECK

Inspect dimensions as per inspection template D3315-5T2

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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**Comment:** SMALL & MEDIUM FAB RESOURCE 1

Deburr if necessary

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 27/2006 12:13:12 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPLATE

Job Number: 25727

Part Number: D33155

Job Number:



Seq. #:

Machine Or Operation:

Description:

6.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

1- Form using DT8751 Die as per Dwg D3315 Rev: B

2- Form using DT8179 Die as per Dwg D3315 Rev: B

Handwritten: B 06 03 06 (5)

7.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Handwritten: 06 03 09 (5)

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld hard surface using D3315-5T3 as per QSI 004 and Dwg D3315 Rev: B

Qty Part Number Description Batch

A/R N/A 7560 Hardcoat Rod

Handwritten: M100299

Handwritten: CPL 06-03-21

Handwritten: (5) PTO

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

Handwritten: 06/03/22 (4)

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

Handwritten: DC 06/03/24

Handwritten: (4)

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

Handwritten: C 206/03/24 (4)

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify on inside surface using a permanent fine point marker with the following:

TCCA-PDA, Dart Aerospace Ltd.

P/N: D3315-5, B/N: BXXXXX

For Product Eligibility see PDA04-17

and Stock

Location:

Handwritten: PDA05-17 P11 05.03.09

Handwritten: C 206/03/24 (4)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
06-03	8	Took 1x 03315-5 for welding template 03315-ST3 Inspected by: <i>[Signature]</i> 06-03-14	CPL	06-03-14	1	<i>[Signature]</i>	<i>[Signature]</i> 06-03-14	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: *[Signature]* Date: 06/03/14
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 2/7/2006 12:13:12 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPLATE

Job Number: 25727

Part Number: D33155

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL
Inspection Level 21

④
06/03/24

Job Completion



U 06/03-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



New Zealand Steel Limited
Glenbrook, South Auckland
Postal: Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8999 / 375 8111 Auckland
(09) 235 8069 / 235 3535 Waiuku
Fax: (09) 375 8859

TEST CERTIFICATE

Ref: 558724541

CUSTOMER	Wilkinson	P50707DI002	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC120140																		
CUSTOMER O/N	90-21N-830		PRODUCT	CRA WIDE COIL	PAGE	1 of 1																		
MILL O/N	497550		DIMENSIONS	0.044" x 48" x Coil	DATE	17 October 2005																		
PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT														MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)								
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ()	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100				x1000										x10000		x100	180°				G.L.=	HRB
R9-467017-00	644043	5	TR	20	14	17	12	17	29	1	8	1	1					Good				52		1965
R9-467018-00	644043	5	TR	20	14	17	12	17	29	1	8	1	1					Good				52		1939
R9-467896-00	644286	5	TR	20	12	16	12	17	24	5	5	1	1					Good				49		2031
R9-467897-00	644286	5	TR	20	12	16	12	17	24	5	5	1	1					Good				49		1932
R9-467898-00	644286	5	TR	20	12	16	12	17	24	5	5	1	1					Good				50		2031
R9-467899-00	644286	5	TR	20	12	16	12	17	24	5	5	1	1					Good				50		1808
R9-468376-00	644291	5	TR	18	8	20	14	16	18	1	5	1	1					Good				45		1978
R9-468377-00	644291	5	TR	18	8	20	14	16	18	1	5	1	1					Good				45		1955

P.0521

YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	(C)=5mm x 5mm	CARBON EQUIVALENT VALUE (CE)
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=r45	(A)=10mm x 10mm	(D)=2.5mm x 10mm	(A)=C+Mn/6
(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65; So (F)=8"	(B)=r90 (D)=(r0+r90+2r45)/4	(B)=7.5mm x 10mm	(E)=5mm x 10mm	(B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15
					(C)=C+Mn/6+Si/24
					(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Satish Misra*
QC METALLURGIST

P60112MD007-1 T M INDUSTRIAL (P50707DI002.644043)



New Zealand Steel Limited
Glenbrook, South Auckland
Postal: Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8999 / 375 8111 Auckland
(09) 235 8089 / 235 3535 Waiuku
Fax: (09) 375 8999

TEST CERTIFICATE

Ref: 5748/ZS194

CUSTOMER	Wilkinson	P50916DI001	SPECIFICATION	ASTMA1008 CS Type A	Reissued 1/12/2005																						
CUSTOMER O/N	90-21N-963		PRODUCT	CRA WIDE COIL	CERTIFICATE No TC122435																						
MILL O/N	507683		DIMENSIONS	0.114" x 48" x Coil	PAGE 1 of 1																						
PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT										MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)															
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ()	BEND	YIELD	T.S.	%ELONG GL =	HARDNESS HRB	r ()	LENGTH (feet)			
		x100				x1000										x10000		x100		180°							
R9-471775-00	644609	4	TR	20	8	11	11	17	23	1	6	1	1					Good				51		794			
R9-471776-00	644609	4	TR	20	8	11	11	17	23	1	6	1	1					Good				51		682			
R9-471777-00	644609	4	TR	20	8	11	11	17	23	1	6	1	1					Good				54		768			
R9-471778-00	644609	4	TR	20	8	11	11	17	23	1	6	1	1					Good				54		640			

YIELD (A)=0.2% PROOF STRESS (B)=LOWER YIELD STRESS	GAUGE LENGTH (G.L.) (A)=200mm (C)=80mm (E)=2" (B)=50mm (D)=5.65 So (F)=8"	PLASTIC STRAIN RATIO (r) (A)=r0 (C)=r45 (B)=r90 (D)=(r0+r90+2r45)/4	IMPACT TEST (A)=10mm x 10mm (B)=7.5mm x 10mm (C)=5mm x 5mm (D)=2.5mm x 10mm (E)=5mm x 10mm	CARBON EQUIVALENT VALUE (CE) (A)=C+Mn/6 (B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15 (C)=C+Mn/6+Si/24 (D)=
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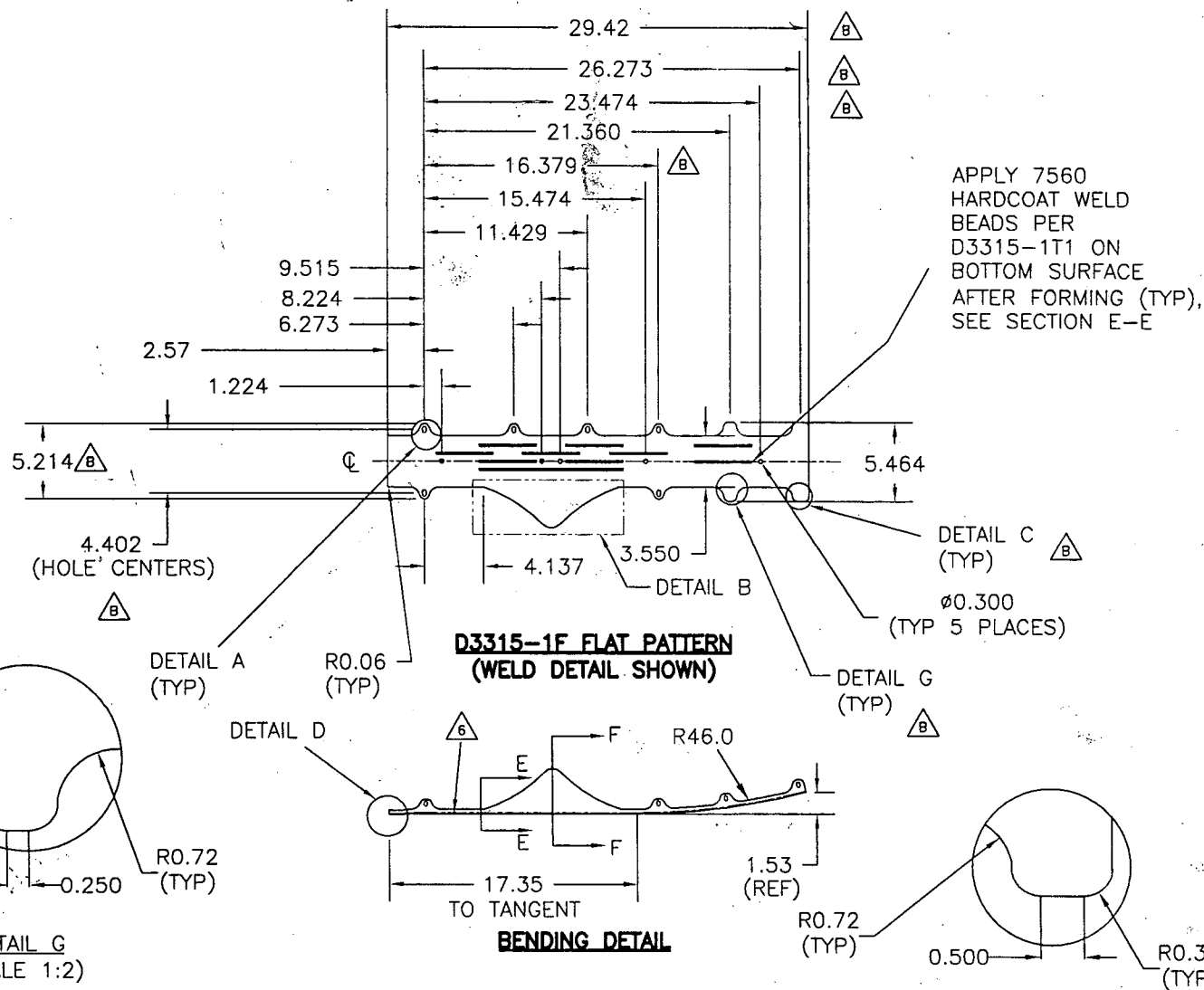
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED

Satish Misra
QC METALLURGIST

50117MD020-1 2 M INDUSTRIAL (P50916DI001. 09)

PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
06.01.31



**D3315-1F FLAT PATTERN
(WELD DETAIL SHOWN)**

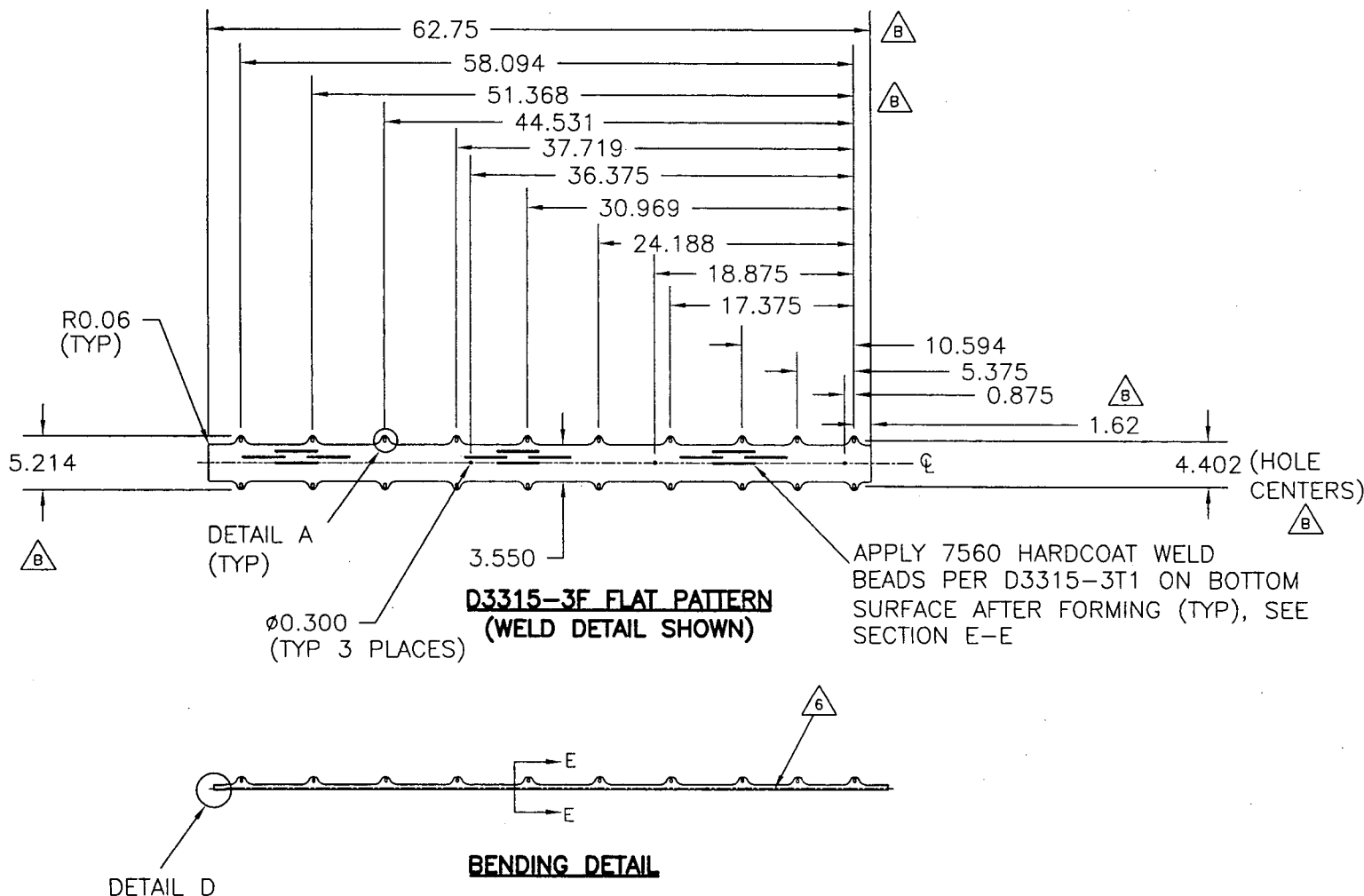
BENDING DETAIL

D3315-1 WEARPLATE (SHOWN, -2 OPPOSITE)

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 16 GAUGE (0.060 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) WELD PER DART QSI 004
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3315-X
B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-17"

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3315
DATE 06.01.31	TITLE WEARPLATE	REV. B SHEET 1 OF 4
A	04.09.10	SCALE 1:12
B	06.01.31	UPDATE DIMENSIONS

PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
06.01.31



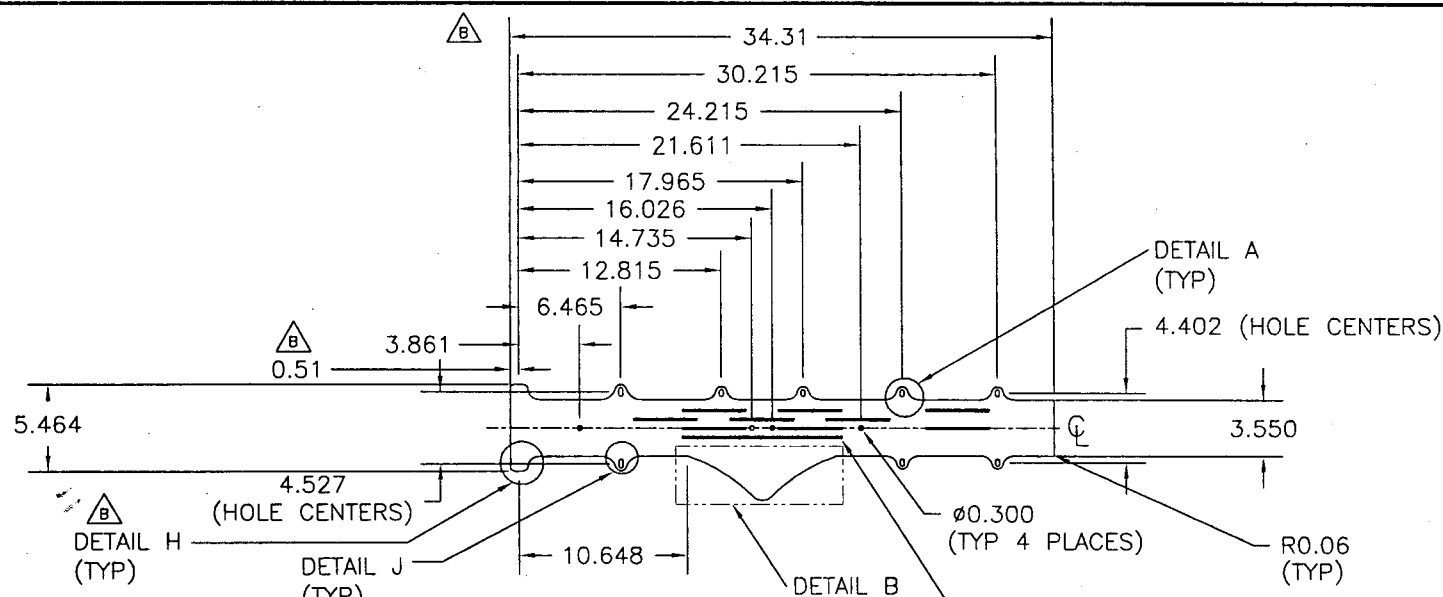
D3315-3 WEARPLATE (SHOWN, -4 OPPOSITE)

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 16 GAUGE (0.060 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) WELD PER DART QSI 004
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3315-X
B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-17"

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. B
06.01.31	D3315	SHEET 2 OF 4
	TITLE	SCALE
	WEARPLATE	1:16

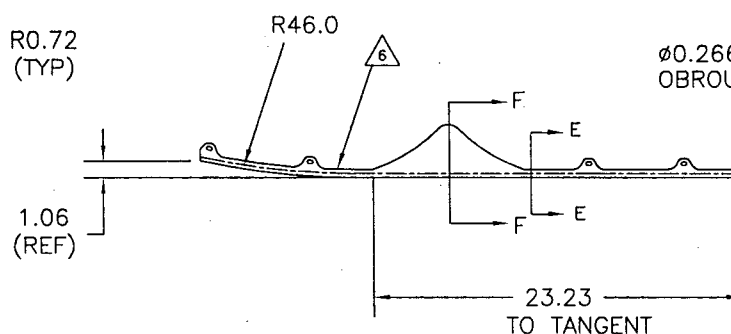
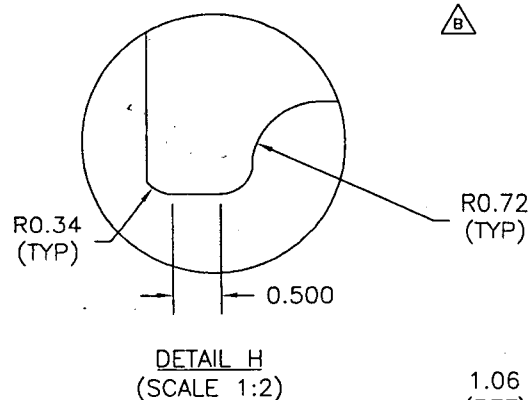
PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
06.02.37 R#1

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3315
DATE 06.01.31	TITLE WEARPLATE	SHEET 3 OF 4
	SCALE 1:12	REV. B

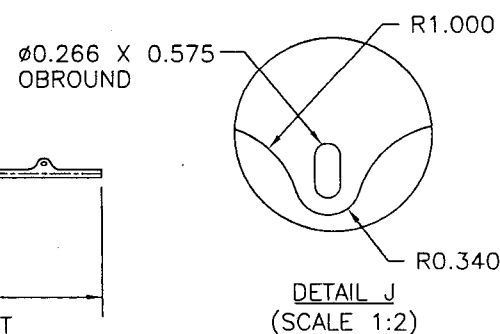


**D3315-5F FLAT PATTERN
(WELD DETAIL SHOWN)**

APPLY 7560 HARDCOAT WELD
BEADS PER D3315-5T1 ON BOTTOM SURFACE
AFTER FORMING (TYP), SEE SECTION E-E



BENDING DETAIL



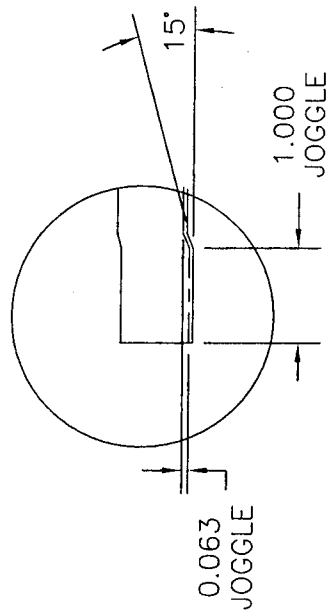
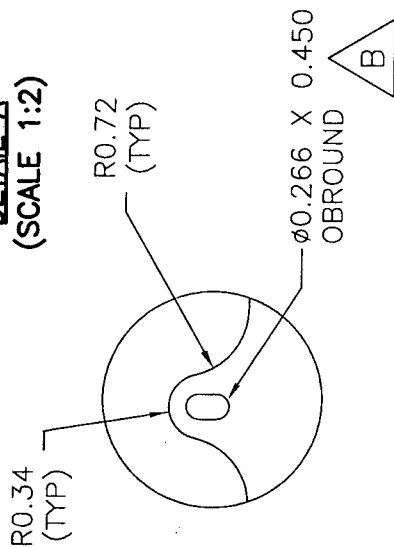
D3315-5 WEARPLATE (SHOWN, -6 OPPOSITE)

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 16 GAUGE (0.060 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) WELD PER DART QSI 004
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSION ARE IN INCHES
- 6) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3315-X
B/N BXXXXX; FOR PRODUCT ELIGIBILITY SEE PDA05-17"

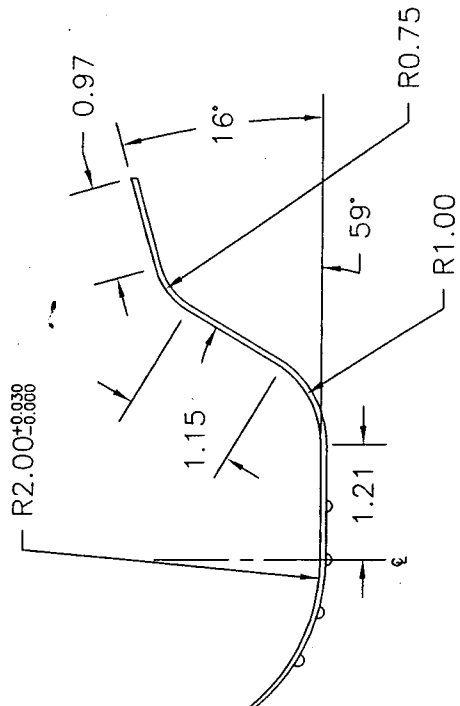
PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
05.02.27 PH

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3315	REV. B SHEET 4 OF 4
DATE 06.01.31	TITLE WEARPLATE		SCALE NTS

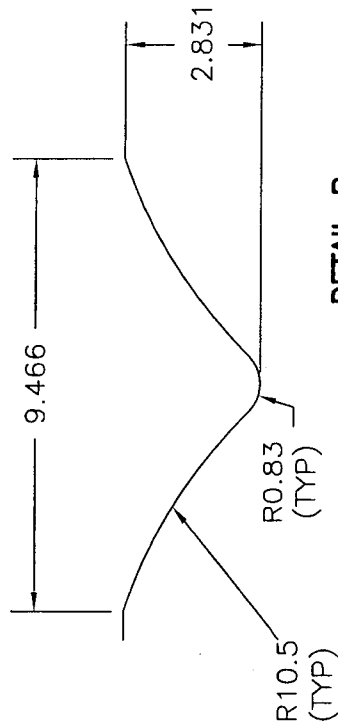
DETAIL A
(SCALE 1:2)



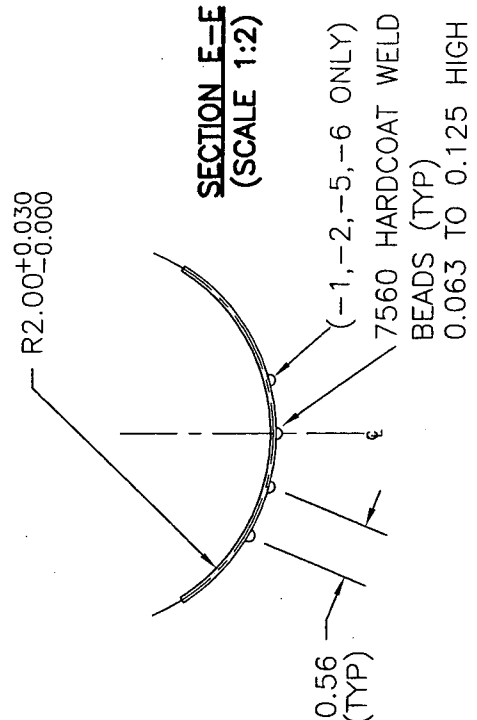
DETAIL D
(SCALE 1:2)



SECTION F-F
(SCALE 1:2)



DETAIL B
(SCALE 1:4)



SECTION E-E
(SCALE 1:2)

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